



## Permit to Operate 12229

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### EQUIPMENT OWNER:

Venoco, Inc.

205487

### EQUIPMENT OPERATOR:

Venoco, Inc.

### EQUIPMENT LOCATION:

5675 Carpinteria Avenue, Carpinteria, CA 93013

### STATIONARY SOURCE/FACILITY:

Venoco Carpinteria Stationary Source

SSID: 00027

Carpinteria Pipeline Facility

FID: 04138

### AUTHORIZED MODIFICATION

This permit revises Permit to Operate ("PTO") No. 7996-R7 fugitive hydrocarbon component counts and fugitive Reactive Organic Compound ("ROC") emissions, based on correlation equation methodology. This results in a reduction in the facility ROC emissions. This permit also includes fugitive benzene emission limits to enforce a reduction in the facility cancer risk to comply with the Air Toxics "Hot Spots" Information and Assessment Act of 1987. No other equipment or operational changes are authorized.

### EQUIPMENT DESCRIPTION

The equipment listed in the table of PTO 7995-R7 Section 9.C.1 is revised to include different fugitive hydrocarbon component types and counts, as detailed in Table 1 (*Fugitive Hydrocarbon Emissions Components*) of this permit. The Equipment List of PTO 7995-R7 Section 10.5 item 3 (*Fugitive Hydrocarbon*) is also revised to include different component types and counts, as detailed in Table A - Permit Equipment List of this permit.

PROCESS/PROJECT DESCRIPTION

The Pipeline Facility consists of the following primary systems:

- Crude oil storage tanks and waste water tanks
- Crude oil pipeline transportation system

The oil is produced solely from Venoco's Outer Continental Shelf Platforms Gail and Grace. The oil is entirely processed offshore on the platforms and the gas is processed at the Carpinteria Gas Plant. The treated oil is metered as it comes to shore at the stationary source and sent via 10-inch pipeline to the 217,000-barrel storage tank. The natural gas liquids separated during gas processing are injected into the sales oil at the adjacent Pipeline Facility. The oil is shipped via 12-inch pipeline to Venoco's Rincon oil storage tank in Ventura County for eventual shipping to refineries in the Los Angeles basin. The Pipeline Facility is limited to a throughput of 18,000 barrels per day of oil. For a detailed description of the equipment units and the operations at the Pipeline Facility, please refer to APCD Permit to Operate No. 7995-R7 and Renewal Part 70 Operating Permit issued on April 14, 2006.

The Project covered by this permit includes changes to the fugitive emissions component count method and emissions calculation method with resultant lower ROC emissions as tabulated in Table 1 (*Fugitive Hydrocarbon Emissions Components*) and Table 2 (*Permitted ROC Emissions from Fugitive Components*) below. Also covered by this permit is the quantification and limitation of benzene emissions from fugitive components in Table 3 (*Permitted Benzene Emissions from Fugitive Components*), in order to reduce cancer risk, in compliance with the Air Toxics "Hot Spots" Information and Assessment Act of 1987.

Detailed reviews of these changes are included in the attached Permit Evaluation.

**A      *Standard Administrative Conditions***

The following federally-enforceable administrative permit conditions apply to the Pipeline Facility:

**A.1      *Compliance with Permit Conditions.***

- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Any permit noncompliance with sections 9.A, 9.B, or 9.C constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
  - (i) compliance with the permit, or
  - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.
- (g) In the event that any condition herein (*to comply with a Rule*) is determined to be in conflict with any other condition contained herein (*to comply with another Rule*) then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.  
[Re: 40 CFR Part 70.6.(a)(6)(iii), APCD Rules 102, 1303.D.1.j, 1303.D.1.n, 1303.D.1.l, 1303.D.1.k, 1303.D.1.o]

**A.2      *Emergency Provisions.*** The permittee shall comply with the requirements of the APCD, Rule 505 (Upset/Breakdown rule) and/or APCD Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the APCD, in writing, a "notice of emergency" within 2 working days of the emergency. The notice of emergency shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: APCD Rule 1303.F ]

**A.3      *Compliance Plan.***

- (a) The permittee shall comply with all federally enforceable requirements that become applicable during the permit term, in a timely manner.

(b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally enforceable rules or standards.

[Re: APCD Rule 1302.D.2]

A.4 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing.

[Re: APCD Rule 1303.D.2.a ]

A.5 **Severability.** The provisions of this Permit to Operate are severable and if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [Re: APCD Rules 103, 1303.D.1.i ]

A.6 **Payment of Fees.** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance monitoring expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: APCD Rules 1303.D.1.p, 1304.D.11 and 40 CFR 70.6(a)(7)]

A.7 **Deviation from Permit Requirements.** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180 days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [Re: APCD Rule 1303.D.1.g, 40 CFR 70.6(a)(3)(iii)(B)]

A.8 **Federally-enforceable Conditions.** Each federally enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the APCD-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review [Re: CAAA, § 502(b)(6), 40 CFR 70.6(b)]

A.9 **Reporting Requirements/Compliance Certification.**

The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on APCD forms and shall identify

each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Compliance Verification Report" Condition 9.C.16 of Part 70/APCD PTO 7996-R7). The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Re: APCD Rules 1303.D.1, 1302.D.3, 1303.2.c]

**A.10 Recordkeeping Requirements.** Records of all monitoring and support information shall include the following:

- (a) The date, place as defined in the permit, and time of sampling or measurements;
- (b) The date(s) analyses were performed;
- (c) The company or entity that performed the analyses;
- (d) The analytical techniques or methods used;
- (e) The results of such analyses; and
- (f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information shall be maintained for a minimum of five (5) years from date of initial entry by Venoco and shall be made available to the APCD upon request. [Re: APCD Rule 1303.D.1.f]

**A.11 Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the APCD or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) Applicable Requirement: If the APCD or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists. If the permit is reopened, and revised, it will be reissued with the expiration date that was listed in the permit before the re-opening.

[Re: 40 CFR 70.7(f)(1)-(3), 40 CFR 70.6(a)(2)]

**B. Generic Conditions**

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. These conditions are federally enforceable. Compliance with these requirements is discussed in Section 3.

**B.1 Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of APCD Rule 303. [Re: APCD Rule 301]

**B.2 Visible Emissions (Rule 302).** Venoco shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:

- a) as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- b) of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above.

Venoco shall determine compliance with this Rule per Condition 9.C.12, as specified later. [Re: APCD Rule 302]

**B.3 Nuisance (Rule 303).** No pollutant emissions from any source at Venoco shall create nuisance conditions. No operations shall endanger health, safety or comfort, nor shall they damage any property or business. [Re: APCD Rule 303]

**C. Equipment Specific Conditions**

Federally-enforceable conditions, including emissions and operations limits, monitoring, recordkeeping and reporting are included in this section for each specific group of equipment. This section may also contain other non-generic conditions.

The conditions below replace or supplement conditions in PTO 7995-R7 (issued 4/13/06), as specified. The attached Tables 5.1-1, 5.1-2, 5.1-3, 5.1-4, 5.2, and 5.3 supersede those in PTO 7996-R7. All other conditions in PTO 7996-R7 remain in full force and effect.

**C.1 Fugitive Hydrocarbon Emissions Components (Replaces Condition 9.C.1 of PTO 7996-R7).** The following equipment is included in this emissions unit category:

**Table 1 - Fugitive Hydrocarbon Emissions Components**

APCD Device ID #	Venoco ID #	Service Type, Equipment Type (Number of Components)
		Gas/Light Liquid Service Components
109707	none	Valves (2)
109712	none	Pump Seals/Compressor Seals (0)
109709	none	Others (6)
109710	none	Connectors (7)
109708	none	Flanges (2)
109711	none	Open-ended lines (0)
		Oil Service Components
109714	none	Valves (141)
109719	none	Pump Seals/Compressor Seals (3)
109717	none	Others (34)
109715	none	Connectors (651)
109716	none	Flanges (133)
109718	none	Open-ended lines (0)

- (a) Emission Limits. Venoco shall comply with the fugitive component ROC limits for each service type in Tables 5.1-3 (*Hourly and Daily Emissions*) and 5.1-4 (*Quarterly and Annual Emissions*), as shown below in Table 2. Compliance with these limits will be based on monitoring, recordkeeping and reporting provisions of New Source Performance Standards (“NSPS”) Subpart KKK, Rule 331, and this permit.

**Table 2 – Permitted ROC Emissions from Fugitive Components**

Fugitive Components	Pounds per Day	Tons per Quarter	Tons per Year
Gas/Light Liquid Service	13.46	0.61	<b>2.46</b>
<b>Oil Service</b>	<b>26.37</b>	<b>1.20</b>	<b>4.81</b>

- (b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in APCD Rule 331.D and E, and NSPS Subpart KKK. In addition, Venoco shall meet the following requirement:

1. VRGC/VRU Use: The vapor recovery/gas collection (“VRGC”) system shall be in operation when the equipment connected to the VRGC system at the facility is in use. The VRGC system includes piping, valves, and flanges associated with the VRGC system. The VRGC system and the vapor recovery system (“VRU”) shall be maintained and operated to minimize the release of emissions from all systems, including pressure relief valves and gauge hatches.
  2. Leak-free systems: Any gauging or sampling device on the tanks must be equipped with a gas-tight cover which shall be closed and leak free at all times except during gauging or sampling. All piping, valves, and fittings shall be vapor tight. Venoco shall implement the requirements of APCD Rule 331.
  3. I&M Program: Venoco shall carry out an inspection and maintenance program in accordance with the APCD-approved *Fugitive Emissions Inspection and Maintenance Plan* prepared May 25, 2007 (“I&M Plan”), and subsequent APCD-approved updates.
  4. Component Count: The component counts listed in Venoco’s most recent I&M component inventory shall not exceed 979 components (total listed in Table 5.1-1, *Operating Equipment Description*) by more than five percent. This five percent range is to allow for minor differences due to component counting methods and does not constitute allowable emissions growth due to the addition of new equipment.
- (c) Monitoring: The equipment units listed in this section are subject to all applicable monitoring requirements listed in NSPS Subpart KKK, particularly for valves and compressor seals, and in APCD Rule 331.F. The test methods in NSPS Subpart KKK and Rule 331.H shall be used, when applicable. In addition, Venoco shall track the component counts for all categories of components at the Pipeline Facility that are listed in Table 1 above, and, log any count changes, including de minimis changes, in a component count inventory maintained for the facility.
- Monitoring of fugitive hydrocarbon components shall be carried out in accordance with the requirements of APCD Rule 331 and per the guidelines of P&P 072. The default monitoring period shall be quarterly for accessible components. Venoco may change the monitoring period to a monthly basis for individual or all Pipeline Facility areas, provided that monthly monitoring is selected before the start of the calendar quarter, and that once begun in any area, monthly monitoring continues for a minimum of the entire quarter. Venoco shall provide written notification to the APCD (Attn: *Venoco Carpinteria Project Manager*) before the start of the calendar quarter for any change of the monitoring period (i.e., from quarterly to monthly, or from monthly to quarterly).
- Venoco’s initial in-period screening value for each component shall be used to assign the emission factor to each component based on the component type, service type and two screening value groups (i.e., less than 10,000 ppmv, and greater than or equal to 10,000 ppmv). The emission factors shall be used in calculating emissions for the applicable period.
- (d) Recordkeeping: All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section is subject to all the



recordkeeping requirements listed in NSPS Subpart KKK, APCD Rule 331.G. Specifically, Venoco shall keep records as follows, at a minimum:

*I&M Log:*

- for each applicable monitoring period a record of each screening value of each component (including tag number, area, sub-area, component type, component grouping, size, service type, inaccessibility group, critical status and for those components with screening values  $\geq 10K$ , date of leak detection, the ppmv or drop-per-minute reading, date of repair attempts, days to repair, method of detection, date of re-inspection and ppmv or drop-per-minute reading following repair); For components screened successively in the same process area with nearly identical ppmv values, in lieu of recording each component ppmv value, Venoco may identify the ppmv values with a note or indicator line between the first and last recorded similar value;
- a record of the total components inspected and the total number and percentage found leaking by component type;
- a record of components found to be leaking greater than 1,000 ppmv (including date of leak detection, the ppmv or drop-per-minute reading, date of repair attempts, days to repair, method of detection, date of re-inspection and ppmv or drop-per-minute reading following repair);
- a record of leaks from critical components;
- a record of leaks from components that incur five repair actions within a continuous 12-month period; and,
- a table showing clearly all changes in the component counts from the counts shown in Table 1 (*Fugitive Hydrocarbon Emissions Components*) above, for all categories of components including the de minimis components at the facility.

- (e) Reporting: The equipment listed in this section are subject to all the reporting requirements listed in NSPS Subpart KKK, APCD Rule 331.G, and the APCD-approved I&M Plan. On a semi-annual basis, a report detailing the previous six-month's activities and emissions shall be provided to the APCD. The report shall list all the data required per Condition 1.d above. The report shall also include quarterly totals (including monthly totals for components in areas monitored monthly) and calendar year-to-date summaries of fugitive ROC emissions (tons) calculated in accordance with item (c) above and benzene emissions (pounds) calculated per Condition C.2 below. This information shall be included in the Semi-Annual Monitoring and Compliance Verification Report (required per Condition 9.C.7 of Part 70/APCD PTO 7995-R7).

Venoco shall notify the APCD via fax (805-961-8801, Attn: *South County Compliance Supervisor*) within 24 hours of discovery of being out of compliance with the ROC emission limits of this permit.

[Re: 40 CFR 60 Subpart KKK; 40 CFR 70.6(a)(3); APCD Rule 331 and APCD P&P 6100.072.1998]

**C.2. Benzene Emissions from Fugitive Components (New Condition)**

- a) Venoco shall comply with the area-specific benzene emission limits for fugitive components specified in Table 3 below. Annual benzene emissions, on a calendar year basis, shall be quantified in accordance with Venoco's August 11, 2004 *Fugitive Sampling Plan and Report* and the Exhibit 10 of the approved I&M Plan (including the Inventory.xls workbook and the related Leakers.xls workbook).

**Table 3 - Permitted Benzene Emissions from Fugitive Components**

Area	Emissions Limit (lb/yr)
9	10
10	10

- b) Venoco shall notify the APCD via fax (805-961-8801, Attn: *South County Compliance Supervisor*) within 24 hours of discovery of being out of compliance with the annual benzene emission limits of this permit. If the area-specific annual benzene emission limit is exceeded in an area, Venoco shall replace all components in that area with Best Available Control Technology ("BACT") components. Within two weeks after discovery of an exceedance of a benzene emission limit, Venoco shall submit a *BACT Compliance Plan and Schedule* for APCD approval. The plan shall detail the BACT installation schedule, with dates of permit application submittal, ordering equipment, and installation. In no event shall the time to install the BACT components exceed one year from date of discovery of the exceedance.
- c) The components are assigned a benzene weight fraction sample point as shown in Table A1 of the *Fugitive Sampling Plan and Report*. These component/sample point assignments listed in the workbooks detailed in Condition C.2.a above shall be used to calculate the fugitive benzene emissions to determine compliance with the limits listed in Table 3 of this permit. Venoco shall submit an Authority to Construct application for any component/sample point reassignment, with all necessary information to document that the proposed component/sample point assignments are correct (e.g., highlighted process and instrumentation diagrams, showing sample locations and the respective component locations). The component/sample point assignments shall not be changed under this permit with the following exceptions: 1) if the APCD determines that a component's sample point was incorrectly assigned, the APCD may reassign a more conservative (higher weight fraction) sample point; or 2) the APCD determines that additional benzene sampling *and* sampling locations are required. The components shall be assigned to the new sample locations prior to sampling via an APCD-approved *Sampling Plan*. {ATC 12229}

- C.3 Periodic Sampling for Toxic Air Contaminants (New condition).** APCD may require periodic sampling to determine the content of Toxic Air Contaminants ("TAC") or candidate TACs in the Pipeline Facility process streams. Reasons for such testing may include but are not limited to changes in process stream, and addition of new or removal of existing equipment. Venoco shall submit a *Sampling Plan* for APCD review and approval within 45

days of APCD's request. The *Sampling Plan* shall include pollutants to be sampled for, sampling method and lab analytical methods, and locations of sample points. If there is a change in sampling locations from the August 2004 testing (as detailed in the *Fugitive Sampling Plan and Report*), the *Sampling Plan* must assign components to the sample locations. Upon APCD approval of the *Sampling Plan* and the *Sampling Report*, Venoco shall revise the I&M Plan (i.e., Exhibit 10) for APCD review and approval. {ATC 12229}

C.4. **Documents Incorporated by Reference.** The documents listed below, including any APCD-approved updates thereof, are incorporated herein by reference and shall have the full force and effect of a permit condition for this permit. These documents shall be implemented for the life of the Project and are available in the APCD project file:

- a. *Fugitive Emissions Inspection and Maintenance Plan* prepared May 25, 2007, and updated February 7, 2008. The I&M Plan includes inventory and emissions calculation tables in electronic format. **(replaces 9.C.8(i) of PTO 7995-R7)**
- b. *Risk Reduction Audit and Plan* (submitted December 19, 2006, approved by APCD on April 4, 2007) **{new}**
- c. *Fugitive Sampling Plan and Report* (dated August 11, 2004, approved by APCD on October 20, 2006) **{new}**

#### **D. APCD-Only Conditions**

The following section lists permit conditions that are not enforceable by the USEPA or the public. However, these conditions are enforceable by the APCD and the State of California. These conditions are issued pursuant to APCD Rule 206 (*Conditional Approval of Authority to Construct or Permit to Operate*)

D.1 **Permit Activation.** All aspects of this permit are enforceable by the APCD and the State of California upon the issuance date stamped below. The Part 70 aspects of this permit are not final until:

- (a) The USEPA has provided written comments to the APCD and these comments require no modification to this permit. The APCD will issue a letter stating that this permit is a final Part 70 permit. The effective date that this permit will be considered a final Part 70 permit will be the date stamped on the APCD's letter.
- (b) After the USEPA has provided the APCD written comments that require a modification to this permit, the APCD will modify this permit to address the USEPA's comments and issue the Part 70 permit as final. The re-issued permit will supersede this permit in its entirety.

D.2. **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.

D.3. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

- D.4 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 et seq.

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AIR POLLUTION CONTROL OFFICER

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DATE

Attachments:

- Table 5.1-0 – Fugitive ROC Emissions Information
- Table 5.1-1 – Operating Equipment Description
- Table 5.1-2 – Equipment Emission Factors
- Table 5.1-3 – Permitted Emission Limits; Hourly and Daily Emissions
- Table 5.1-4 – Permitted Emission Limits; Quarterly and Annual Emissions
- Table 5.2 – Total Permitted Facility Emissions
- Table 5.3 – Federal Potential to Emit
- Attachment 10.1 – Emissions Calculation Documentation
- Table A – Permit Equipment List
- Permit Evaluation for Permit to Operate 12229

Notes:

- (a) This permit supersedes APCD ATC 12230.
- (b) Permit Reevaluation Due Date April 2009.

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Table 5.1.0  
Venoco Carpinteria Pipeline Facility: APCD PTO 12229  
Fugitive ROC Emissions Information <sup>a, b</sup>

Service Type Component Type	Accessibility Group	Number of Components Screened <sup>c</sup>			SVRFs <sup>d</sup> for THC lb/comp/day		THC Emissions by SVRF Range, and Total, lb/day			ROC/THC Ratio	Total ROC Emissions <sup>e</sup>			SVRFs for ROC lb/comp/day	
		<10K	≥ 10K	Total	<10K	≥ 10K	<10K	≥ 10K	Total		lb/day	tpq	tpy	<10K	≥ 10K
<b>Gas/Light Liquid Service</b>															
Valves	Accessible	0	2	2	1.85E-03	7.33E+00	0.000	14.660	14.660	0.31	4.54	0.21	0.83	5.74E-04	2.27E+00
	Inaccessible	0	0	0	1.85E-03	7.33E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	5.74E-04	2.27E+00
Others	Accessible	4	2	6	1.27E-02	9.76E+00	0.051	19.520	19.571	0.31	6.07	0.28	1.11	3.94E-03	3.03E+00
	Inaccessible	0	0	0	1.27E-02	9.76E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	3.94E-03	3.03E+00
Connectors	Accessible	5	2	7	6.35E-04	1.37E+00	0.003	2.740	2.743	0.31	0.85	0.04	0.16	1.97E-04	4.25E-01
	Inaccessible	0	0	0	6.35E-04	1.37E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	1.97E-04	4.25E-01
Flanges	Accessible	0	2	2	1.48E-03	3.23E+00	0.000	6.460	6.460	0.31	2.00	0.09	0.37	4.59E-04	1.00E+00
	Inaccessible	0	0	0	1.48E-03	3.23E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	4.59E-04	1.00E+00
Open-ended Lines	Accessible	0	0	0	1.27E-03	2.90E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	3.94E-04	8.99E-01
	Inaccessible	0	0	0	1.27E-03	2.90E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	3.94E-04	8.99E-01
Pump Seals/ Compressor Seals	Accessible	0	0	0	3.07E-02	3.80E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	9.52E-03	1.18E+00
	Inaccessible	0	0	0	3.07E-02	3.80E+00	0.000	0.000	0.000	0.31	0.00	0.00	0.00	9.52E-03	1.18E+00
<b>Subtotal: Gas/LL</b>		<b>9</b>	<b>8</b>	<b>17</b>							<b>13.46</b>	<b>0.61</b>	<b>2.46</b>		
<b>Oil Service</b>															
Valves	Accessible	139	2	141	1.01E-03	3.74E+00	0.140	7.480	7.620	0.56	4.27	0.19	0.78	5.66E-04	2.09E+00
	Inaccessible	0	0	0	1.01E-03	3.74E+00	0.000	0.000	0.000	0.56	0.00	0.00	0.00	5.66E-04	2.09E+00
Others	Accessible	32	2	34	8.50E-03	5.03E-01	0.272	1.006	1.278	0.56	0.72	0.03	0.13	4.76E-03	2.82E-01
	Inaccessible	0	0	0	8.50E-03	5.03E-01	0.000	0.000	0.000	0.56	0.00	0.00	0.00	4.76E-03	2.82E-01
Connectors	Accessible	649	2	651	5.29E-04	1.24E+00	0.343	2.480	2.823	0.56	1.58	0.07	0.29	2.96E-04	6.94E-01
	Inaccessible	0	0	0	5.29E-04	1.24E+00	0.000	0.000	0.000	0.56	0.00	0.00	0.00	2.96E-04	6.94E-01
Flanges	Accessible	131	2	133	1.27E-03	1.38E+01	0.166	27.600	27.766	0.56	15.55	0.71	2.84	7.11E-04	7.73E+00
	Inaccessible	0	0	0	1.27E-03	1.38E+01	0.000	0.000	0.000	0.56	0.00	0.00	0.00	7.11E-04	7.73E+00
Open-ended Lines	Accessible	0	0	0	9.52E-04	1.17E+00	0.000	0.000	0.000	0.56	0.00	0.00	0.00	5.33E-04	6.55E-01
	Inaccessible	0	0	0	9.52E-04	1.17E+00	0.000	0.000	0.000	0.56	0.00	0.00	0.00	5.33E-04	6.55E-01
Pump Seals/ Compressor Seals	Accessible	1	2	3	7.40E-03	3.80E+00	0.007	7.600	7.607	0.56	4.26	0.19	0.78	4.14E-03	2.13E+00
	Inaccessible	0	0	0	7.40E-03	3.80E+00	0.000	0.000	0.000	0.56	0.00	0.00	0.00	4.14E-03	2.13E+00
<b>Subtotal: Oil</b>		<b>952</b>	<b>10</b>	<b>962</b>							<b>26.37</b>	<b>1.20</b>	<b>4.81</b>		
<b>Total: Gas/LL + Oil</b>		<b>961</b>	<b>18</b>	<b>979</b>							<b>39.82</b>	<b>1.81</b>	<b>7.27</b>		

## Notes:

<sup>a</sup> This table, based on Venoco's Table 1 (7995) of the March 8, 2007 Additional Information for Application, is for informational purposes only.

<sup>b</sup> See APCD Policy and Procedure 6100.072.1998 for an explanation of the terms and calculation process used in this table.

<sup>c</sup> The distribution of components in the "<10K" and "≥10K" columns may vary; the values shown are not limits.

<sup>d</sup> SVRF = screening value range factor

<sup>e</sup> Permitted ROC emissions limits are detailed by service type in Tables 5.1-3, 5.1-4, 5.2 and 5.3.

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**Table 5.1-1  
Venoco Carpinteria Pipeline Facility: APCD PTO 12229  
Operating Equipment Description**

Facility ID #: 04138

Equipment Category	Venoco ID/ Emissions Unit	APCD ID #	Device Specifications		Usage Data		Maximum Load Schedule					References
			Size	Units	Capacity	Units	Load	hr	day	qtr	year	
Oil Tank & Wastewater Tanks	Oil, Ext. Floating Roof : T-861	4161	180'd x 50'		217000.00	bbls		1	24	2190	8760	B
	W/W Tank, SH-T24637	9561	37.5'd x 24'		1110.37	sq.ft.		1	24	2190	8760	C
	W/W Tank, SA-T25380	9563	37.5'd x 24'		1110.37	sq.ft.		0	0	0	0	C
Wastewater Pan & Sump	Wastewater Pan	8145	4' x 4'		16.00	sq.ft		1	24	2190	8760	D
	Sump	9560	4.5'x3.5'		15.95	sq.ft		1	24	2190	8760	D
Pigging Equipment	Oil receiver	9555	0.83' dx12' l		6.55	acf-event		1	1	26	104	E
Fugitive Components												
	Gas/Light Liquid Service Valves	107468		2 component				1	24	2190	8760	A
	Pump Seals/Compressor Seals	109704		0 component				1	24	2190	8760	A
	Others	109695		6 component				1	24	2190	8760	A
	Connectors	109696		7 component				1	24	2190	8760	A
	Flanges	109694		2 component				1	24	2190	8760	A
	Open-ended lines	109705		0 component				1	24	2190	8760	A
	Oil Service Valves	109698		141 component				1	24	2190	8760	A
	Pump Seals/Compressor Seals	109703		3 component				1	24	2190	8760	A
	Others	109701		34 component				1	24	2190	8760	A
	Connectors	109699		651 component				1	24	2190	8760	A
	Flanges	109700		133 component				1	24	2190	8760	A
	Open-ended lines	109702		0 component				1	24	2190	8760	A
Solvent/Coatings	Solvents	107195	Rule Limits	gal/yr			1.00	1	24	2190	8760	F
	Surface Coating	107194	Rule Limits	gal/yr			1.00	1	24	2190	8760	F

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**Table 5.1-2**  
**Venoco Carpinteria Pipeline Facility: APCD PTO 12229**  
**Equipment Emission Factors**

Equipment Category	Emissions Unit	APCD ID #	SCC Code	Emission Factors						Units	References
				NOx	ROC	CO	SOx	PM	PM10		
Oil Tank & Wastewater Tanks	Oil, Ext. Floating Roof	4161		-	n/a	-	-	-	-		B
	W/W Tank, SH-T24637	9561		-	0.0006	-	-	-	-	lb/sq.ft-day	C
	W/W Tank, SA-T25380*	9563		-	0.0000	-	-	-	-	lb/sq.ft-day	C
Wastewater Pan & Sump	Wastewater Pan	8145		-	0.0126	-	-	-	-	lb/sq.ft-day	D
	Sump	9560		-	0.0056	-	-	-	-	lb/sq.ft-day	D
Pigging Equipment	Oil receiver	9555		-	0.0803	-	-	-	-	lb/acf-event	E
Fugitive Components:											
<b>&lt;10K ppmv SV</b>											
Gas/Light Liquid Service	Valves	107468	3-06-008-12	-	5.74E-04	-	-	-	-	lbs/comp-day	A
	Pump Seals/Compressor Seals	109704	3-06-008-17/3-06-008-19	-	9.52E-03	-	-	-	-	lbs/comp-day	A
	Others	109695		-	3.94E-03	-	-	-	-	lbs/comp-day	A
	Connectors	109696	3-06-008-01	-	1.97E-04	-	-	-	-	lbs/comp-day	A
	Flanges	109694	3-06-008-16	-	4.59E-04	-	-	-	-	lbs/comp-day	A
	Open-ended lines	109705	3-06-008-15	-	3.94E-04	-	-	-	-	lbs/comp-day	A
Oil Service	Valves	109698	3-06-008-13	-	5.66E-04	-	-	-	-	lbs/comp-day	A
	Pump Seals/Compressor Seals	109703	3-06-008-18/3-06-008-20	-	4.14E-03	-	-	-	-	lbs/comp-day	A
	Others	109701		-	4.76E-03	-	-	-	-	lbs/comp-day	A
	Connectors	109699	3-06-008-01	-	2.96E-04	-	-	-	-	lbs/comp-day	A
	Flanges	109700	3-06-008-16	-	7.11E-04	-	-	-	-	lbs/comp-day	A
	Open-ended lines	109702	3-06-008-15	-	5.33E-04	-	-	-	-	lbs/comp-day	A
<b>≥10K ppmv SV</b>											
Gas/Light Liquid Service	Valves	107468	3-06-008-12	-	2.27E+00	-	-	-	-	lbs/comp-day	A
	Pump Seals/Compressor Seals	109704	3-06-008-17/3-06-008-19	-	1.18E+00	-	-	-	-	lbs/comp-day	A
	Others	109695		-	3.03E+00	-	-	-	-	lbs/comp-day	A
	Connectors	109696	3-06-008-01	-	4.25E-01	-	-	-	-	lbs/comp-day	A
	Flanges	109694	3-06-008-16	-	1.00E+00	-	-	-	-	lbs/comp-day	A
	Open-ended lines	109705	3-06-008-15	-	8.99E-01	-	-	-	-	lbs/comp-day	A
Oil Service	Valves	109698	3-06-008-13	-	2.09E+00	-	-	-	-	lbs/comp-day	A
	Pump Seals/Compressor Seals	109703	3-06-008-18/3-06-008-20	-	2.13E+00	-	-	-	-	lbs/comp-day	A
	Others	109701		-	2.82E-01	-	-	-	-	lbs/comp-day	A
	Connectors	109699	3-06-008-01	-	6.94E-01	-	-	-	-	lbs/comp-day	A
	Flanges	109700	3-06-008-16	-	7.73E+00	-	-	-	-	lbs/comp-day	A
	Open-ended lines	109702	3-06-008-15	-	6.55E-01	-	-	-	-	lbs/comp-day	A
Solvent/Coating Usage	Solvents	107195		-	Manuf. Spec.	-	-	-	-	lbs ROC/gal	F
	Surface Coating (w/solvent use)	107194		-	Manuf. Spec.	-	-	-	-	lbs ROC/gal	F

\*This tank is currently required by Pt70/PTO 7995-R7 to be out of service. Hence, no emissions from this tank.

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Table 5.1.3  
Venoco Carpinteria Pipeline Facility: APCD PTO 12229  
Hourly and Daily Emissions

Equipment Category	Emissions Unit	APCD ID #	NOx lbs/hr lbs/day	ROC lbs/hr lbs/day	CO lbs/hr lbs/day	SOx lbs/hr lbs/day	PM lbs/hr lbs/day	PM10 lbs/hr lbs/day	LIMIT*** Enforceability
Oil Tank & Wastewater Tanks	Oil, Ext. Floating Roof	4161	- -	-	5.13	- -	- -	- -	FE
	W/W Tank, SH-T24637	9561	- -	-	0.70	- -	- -	- -	FE
	W/W Tank, SA-T25380*	9563	- -	-	0.00	- -	- -	- -	FE
Wastewater Pan & Sump	Wastewater Pan	8145	- -	-	0.20	- -	- -	- -	A
	Sump	9560	- -	-	0.09	- -	- -	- -	A
Pigging Equipment	Oil receiver	9555	- -	-	0.53	- -	- -	- -	FE
Fugitive Components:		See Table 5-1.1							
	Gas/Light Liquid Service		- -	-	13.46	- -	- -	- -	A
	Oil Service		- -	-	26.37	- -	- -	- -	A
Solvent/Coatings	Solvents	107195	- -	Rule Limits	Rule Limits	- -	- -	- -	FE
	Surface Coating	107194	- -	Rule Limits	Rule Limits	- -	- -	- -	FE

\*\*\* 'FE' means 'federally enforceable'

\*\*\* 'A' means APCD enforceable only

\*This tank is currently required by Pt70/PTO 7995-R7 to be out of service. Hence, no emissions from this tank.



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**Table 5.1-4  
Venoco Carpinteria Pipeline Facility: APCD PTO 12229  
Quarterly and Annual Emissions**

Equipment Category	Emissions Unit	APCD ID #	NOx		ROC		CO		SOx		PM		PM10		LIMIT*** Enforceability
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	
Oil Tank & Wastewater Tanks	Oil, Ext. Floating Roof	4161	-	-	-	0.94	-	-	-	-	-	-	-	-	FE
	W/W Tank, SH-T24637	9561	-	-	-	0.13	-	-	-	-	-	-	-	-	FE
	W/W Tank, SA-T25380*	9563	-	-	-	0.00	-	-	-	-	-	-	-	-	FE
Wastewater Pan & Sump															
	Wastewater Pan	8145	-	-	-	0.04	-	-	-	-	-	-	-	-	A
	Sump	9560	-	-	-	0.02	-	-	-	-	-	-	-	-	A
Pigging Equipment	Oil receiver	9555	-	-	-	0.03									FE
Fugitive Components:															
	Gas/Light Liquid Service	see Table 5.5-1	-	-	0.61	2.46	-	-	-	-	-	-	-	-	A
	Oil Service	see Table 5.5-1	-	-	1.20	4.81	-	-	-	-	-	-	-	-	A
Solvent/Coatings	Solvents	107195	-	-	Rule Limits	Rule Limits	-	-	-	-	-	-	-	-	FE
	Surface Coating	107194	-	-	Rule Limits	Rule Limits	-	-	-	-	-	-	-	-	FE

\*\*\* 'FE' means 'federally enforceable'

\*\*\* 'A' means APCD enforceable only

\*This tank is currently required by Pt70/PTO 7995-R7 to be out of service. Hence, no emissions from this tank.

**Table 5.2**  
**Venoco Carpinteria Pipeline Facility: APCD PTO 12229**  
**Total Permitted Facility Emissions**

<b>A. Peak Hourly (lb/hr)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater Tanks	-	-	-	-	-	-
Wastewater Pan & Sump	-	-	-	-	-	-
Pigging Equipment	-	-	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	-	-	-	-	-
Fug.Comp. - Oil Service	-	-	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (lb/hr)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>B. Peak Daily (lb/day)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater Tanks	-	5.83	-	-	-	-
Wastewater Pan & Sump	-	0.29	-	-	-	-
Pigging Equipment	-	0.53	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	13.46	-	-	-	-
Fug.Comp. - Oil Service	-	26.37	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (lb/day)</b>	<b>0.00</b>	<b>46.48</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>C. Peak Quarterly (tons/qtr)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater Tanks	-	-	-	-	-	-
Wastewater Pan & Sump	-	-	-	-	-	-
Pigging Equipment	-	-	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	0.61	-	-	-	-
Fug.Comp. - Oil Service	-	1.20	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (ton/qtr)</b>	<b>0.00</b>	<b>1.81</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>D. Peak Annual (ton/yr)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater Tanks	-	1.07	-	-	-	-
Wastewater Pan & Sump	-	0.05	-	-	-	-
Pigging Equipment	-	0.03	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	2.46	-	-	-	-
Fug.Comp. - Oil Service	-	4.81	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (ton/yr)</b>	<b>0.00</b>	<b>8.42</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Table 5.3  
Venoco Carpinteria Pipeline Facility: APCD PTO 12229  
Federal Potential to Emit

<b>A. Peak Daily (lb/day)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater tanks	-	5.83	-	-	-	-
Wastewater Pan & Sump	-	-	-	-	-	-
Pigging Equipment	-	0.53	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	-	-	-	-	-
Fug.Comp. - Oil Service	-	-	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (lb/hr)</b>	<b>0.00</b>	<b>6.36</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>D. Peak Annual (ton/yr)</b>						
Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Oil Tank & Wastewater tanks	-	1.07	-	-	-	-
Wastewater Pan & Sump	-	-	-	-	-	-
Pigging Equipment	-	0.03	-	-	-	-
Fug.Comp. - Gas/LightLiquid Service	-	-	-	-	-	-
Fug.Comp. - Oil Service	-	-	-	-	-	-
Solvent/Coatings	-	-	-	-	-	-
<b>TOTALS (ton/yr)</b>	<b>0.00</b>	<b>1.10</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

10.1 EMISSION CALCULATION DOCUMENTATION - PIPELINE FACILITY:

This attachment contains all relevant emission calculation documentation used for the fugitive ROC emissions in the emission Tables 5. Reference A follows; refer to Part 70/PTO 7995-R7 for References B, C, D, E and F.

Reference A - Fugitive Components Emitting ROCs

- ☞ The maximum operating schedule is in units of hours.
- ☞ Component counts are provided by the applicant. The count has been verified to be accurate within 5 percent of the APCD's count based on site checks and process/instrumentation diagram review.
- ☞ The component counts used in the calculation of fugitive ROC emissions are based on the APCD 6100.072.1998 guidelines (*Using Correlation Equation Methodology to Estimate Mass ROC Emissions at O&G Facilities*, "P&P 072"). Venoco is required to comply with the requirements of APCD Rule 331 (*Fugitive Emissions Inspection and Maintenance*) and to follow the guidelines provided in P&P 072. Note that P&P 072 is based on the Correlation Equation Method and does not consider control efficiency factors for implementation of I&M programs in calculating fugitive ROC emissions.
- ☞ Emission factors are based on the P&P 072 guidelines; ROC/THC ratios are based on the APCD P&P 6100.061.1998 guidelines (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts – Modified for Revised ROC Definition*).

**TABLE A - PERMIT EQUIPMENT LIST**

ATC 12229 / FID: 00027 Carpinteria Pipeline Facility / SSID: 00027

**A PERMITTED EQUIPMENT**

**1 Gas/Light Liquid Service Components**

**1.1 Gas/Light Liquid Service Components: Valves**

<i>Device ID #</i>	<b>109707</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Valves</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**1.2 Gas/Light Liquid Service Components: Flanges**

<i>Device ID #</i>	<b>109708</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Flanges</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**1.3 Gas/Light Liquid Service Components: Other**

<i>Device ID #</i>	<b>109709</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Others</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	6 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**1.4 Gas/Light Liquid Service Components: Connectors**

<i>Device ID #</i>	<b>109710</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Connectors</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	7 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**1.5 Gas/Light Liquid Service Components: Open-ended lines**

<i>Device ID #</i>	<b>109711</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Open-ended lines</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	0 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	no open-ended lines		

**1.6 Gas/Light Liquid Service Components: Pump/Compressor Seals**

<i>Device ID #</i>	<b>109712</b>	<i>Device Name</i>	<b>Gas/Light Liquid Service Components: Pump Seals/Compressor Seals</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	0 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	no pump seals or compressor seals		

## **2 Oil Service Components**

### **2.1 Oil Service Components: Valves**

<i>Device ID #</i>	<b>109714</b>	<i>Device Name</i>	<b>Oil Service Components: Valves</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	141 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

### **2.2 Oil Service Components: Connectors**

<i>Device ID #</i>	<b>109715</b>	<i>Device Name</i>	<b>Oil Service Components: Connectors</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	651 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

### **2.3 Oil Service Components: Flanges**

<i>Device ID #</i>	<b>109716</b>	<i>Device Name</i>	<b>Oil Service Components: Flanges</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	133 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

### **2.4 Oil Service Components: Other**

<i>Device ID #</i>	<b>109717</b>	<i>Device Name</i>	<b>Oil Service Components: Others</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	34 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**2.5 Oil Service Components: Open-ended lines**

<i>Device ID #</i>	<b>109718</b>	<i>Device Name</i>	<b>Oil Service Components: Open-ended lines</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	0 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**2.6 Oil Service Components: Pump Seals/Compressor Seals**

<i>Device ID #</i>	<b>109719</b>	<i>Device Name</i>	<b>Oil Service Components: Pump Seals/Compressor Seals</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3 Components
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	3 pump seals 0 compressor seals		





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### 1.0 BACKGROUND

- 1.1 General: The APCD performed a preliminary health risk assessment (“HRA”) for Venoco Carpinteria Stationary Source (“Venoco Carpinteria”) in 2004 under the AB 2588 “Hot Spots” Program for reporting year 1999. The HRA results showed that Venoco Carpinteria creates a significant risk to the surrounding community. Under the “Hot Spots” program, Venoco, Inc. (“Venoco”) is required to reduce their risk below the APCD’s significance thresholds. On June 1, 2005, Venoco submitted a Risk Reduction Audit and Plan (“RRAP”) that included the installation of 1,931 bellows valves to reduce benzene emissions. The APCD approved the RRAP and required that Venoco install those valves by June 2007 or reduce the cancer risk by some other method by that time. As an alternative to installing the bellows valves, Venoco proposed to recalculate the ROC and benzene emissions using the APCD issued Policy & Procedure 6100.072.1998 (*Use of Correlation Equation Methodology to Estimate Mass ROC emission at Oil and Gas Facilities*, “P&P 072”). The change from the component count leak path method of calculating fugitive emissions (as detailed in P&P 6100.061.1998, *Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts - Modified for Revised ROC Definition*, “P&P 061”), to a correlation equation method (as detailed in P&P 072) results in reduced fugitive emissions, including benzene, and therefore, a reduction in facility cancer risk.

Throughout 2006, Venoco and their contractor, Avanti Environmental, performed new component counts, using the count methods defined in P&P 072, which are different from those of P&P 061. Upon completion of the revised component count, Venoco proposed a new Fugitive Emission Inspection and Maintenance Plan (“I&M Plan”), which detailed how Venoco will comply with the requirements of both Rule 331 (*Fugitive Emissions Inspection and Maintenance*) and P&P 072. The I&M Plan includes the new component count (“Inventory”), the assumed number of “greater than or equal to 10,000 ppmv” (“≥10K”) components (based on a review of historical records), and emissions calculation sheets. Venoco submitted ATC application 12229 to the APCD on January 25, 2007 and included the revised fugitive emission counts and assumptions. The APCD issued ATC 12229 on May 29, 2007, and this PTO will ensure the revised limits are enforceable so that compliance with the RRAP can be established.

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Fugitive ROC emission limits are based on a specific number of leaking (“>10K”) components of various types in both gas/light liquid and oil service. This method correlates the ppmv readings of actual leaking components to emissions. In prior permits, ROC limits were based upon fixed control efficiencies assumed for all components. Through attentive monitoring and repair, it is expected that Venoco will be able to comply with the lower ROC emission limits of this permit.

Based on the new inventory, on the total hydrocarbons (“THC”) emission factors from P&P 072 for both “<10K” components and “≥10K” components in both Gas/Light Liquid service and Oil service, and on the ROC/THC ratios in Table 2 of P&P 061, the daily, quarterly and annual fugitive ROC emissions were calculated. The APCD reviewed the count method as well as the calculations, and found them to be acceptable. The calculation results are shown in Table 5.1-0 (Fugitive ROC Emissions Information).

- 1.2 Permit History: In February 1998, Venoco’s contractor, Avanti Environmental, studied the current plant systems and field-reviewed all of Venoco's piping and instrumentation diagrams. The component leak path (“clp”) count was counted consistent with APCD P&P 061. The plant-wide Inspection and Maintenance (“I&M”) emissions inventory component count for the Pipeline Facility dated June 30, 2005 was the basis for fugitive hydrocarbon emissions in Part 70/APCD PTO 7995-R7 (issued April 14, 2006).
- 1.3 Compliance History: Since the issuance of Pt70/PTO 7995-R7 on April 14, 2006, no Notice to Correct or Notice of Violation has been issued to Venoco for I&M program related activities at the Pipeline Facility.

## **2.0 ENGINEERING ANALYSIS**

- 2.1 Equipment/Processes: Fugitive hydrocarbon emissions occur from leaks in process components such as valves, connectors, pump seals, compressor seals, flanges, open-ended lines and pressure relief devices. A fugitive emissions control program is used to minimize potential leaks from the process components. Emission reductions are expected as a result of Venoco’s implementation of an I&M program. The I&M program is designed to minimize leaks through a combination of pre- and post-leak controls. Pre-leak controls include venting of some pressure relief devices to the VRU, and plugging of open-ended lines. Post-leak controls consist of regular inspection of each leak source for leakage and repair of all components found leaking.

During APCD’s review of prior permits for both the Gas Plant and the Pipeline Facility, it was verified with Venoco that all gas/light liquid service components were included in the permits for the Gas Plant, and all oil service components were included in permits for the Pipeline Facility, regardless of the physical location of the components. However, some oil service components are located in the Gas Plant, and some gas/light liquid service components are located at the Pipeline Facility. This permit (PTO 12229) includes all gas/light liquid and oil service components physically located at the Pipeline Facility; a similar permit for the Gas Plant (PTO 12230) includes all gas/light liquid service and oil service components physically located at the Gas Plant.

During the implementation of the fugitive inspection and maintenance program, it was recognized in late October 2007 that 2 components had remained uncouned at the Pipeline Facility, both

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related to the count methodology of the Correlation Equation detailed in APCDs Policy and Procedure 6100.072.1998. Corrected counts were submitted by Venoco, and included in an update dated February 7, 2008 to Venoco's *Fugitive Emissions Inspection & Maintenance Plan* (I&M Plan) dated May 25, 2007 and previously approved by APCD on May 29, 2007. The APCD approved the updated I&M Plan on February 13, 2008.

- 2.2 Emission Controls: The correlation equation method does not assign additional control efficiency factors in calculating fugitive emissions.
- 2.3 Emission Factors: The emission factors and calculations used to calculate fugitive ROC emissions and fugitive benzene emissions are discussed below.
- 2.3.1 Fugitive ROC Emissions. In September 1998, the APCD issued P&P 072 which provides an alternate methodology for calculating fugitive emissions. This method is based on EPA studies, reviewed by the EPA, ARB, SBCAPCD and other air districts. P&P 072 uses the Screening Value Range Factor ("SVRF") correlation equation methodology to determine fugitive emissions of THC. SVRFs are component based factors that provide THC leak rate concentrations for each component type and for each service type (e.g., gas/light liquid service, and oil service) within two specific screening value concentration ranges, " $\geq 10K$ " and those " $< 10K$ ".

ROC emission factors for each fugitive emissions component are from APCD P&P 072, Table SVRF-1: Oil and Gas Production/Processing Facilities Screening Value Range Emission Factors. These are screening value range factors itemized by service type (gas/light liquid, and oil), component type (valves, pump seals/compressor seals, others, connectors, flanges, and open-ended lines), and by the THC compound screening values (" $< 10K$ ", and " $\geq 10K$ " ppmv). ROC/THC ratios from APCD P&P 061 are used.

- 2.3.2 Fugitive Benzene Emissions. Benzene emissions from fugitive components are calculated using the correlation equation methodology to calculate THC for both " $< 10K$ " and " $\geq 10K$ " components, and benzene to THC weight fractions determined by sampling and analyses. Benzene to THC weight fractions are based on the results of APCD-approved sampling performed in August 2004 at sampling points throughout the Gas Plant and the Pipeline Facility. Gases from specific sample points were analyzed in the laboratory, and benzene weight fractions of THC were derived.

To determine compliance with the fugitive benzene emissions limits, the correlation equation methodology is used to calculate THC for both " $< 10K$ " and " $\geq 10K$ " components. The same components and component counts used to quantify ROC emissions are also used to calculate benzene emissions. Each component is assigned a sample point and corresponding benzene weight fraction. The benzene emissions from a component are calculated by multiplying the THC emissions from that component by the benzene weight fraction assigned to that component. Components are assigned to a specific area of the Gas Plant and the Pipeline Facility. The areas represent physical locations of the components and are defined in Venoco's August 11, 2004 *Fugitive Sampling Plan and Report*. The benzene emissions for an area are determined by summing the benzene emissions from all " $< 10K$ " and " $\geq 10K$ " components in that area.

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- 2.4 Reasonable Worst Case Emission Scenario: Section 5 of the Part 70/APCD PTO 7996-R7 defines the operational characteristics that comprise the reasonable worst case-operating scenario for this permit. Fugitive emissions components for both ROC and benzene are assumed to operate and emit 24 hours a day, 365 days a year. To determine the potential to emit, reasonable worst case assumptions for leaking components (“ $\geq 10$  K”) were made as noted in Table 5.1.0.
- 2.5 Emission Calculations: The calculation methodology for the fugitive emissions is detailed in APCD P&P 072 (see Table SVRF-2: Oil and Gas Production/Processing Facilities Example Calculation of Fugitive ROC Emissions from a New Project of P&P 072 for example calculations). To calculate actual emissions, fugitive hydrocarbon components are monitored by Venoco a minimum of once during a monitoring period, which is generally a calendar quarter. The leak rates (screening values) from the initial in-period monitoring are separated into two leak rate groups: “ $< 10$ K” and “ $\geq 10$ K”. Components are then assigned the THC leak rate from P&P 072 Table SVRF-1 that is appropriate for their service type (gas/light liquid, and oil), component type (e.g., valve, flange, connector), and the leak rate group. ROC/THC factors, from P&P 061 are then assigned.
- This permit action revises the previously permitted fugitive ROC emissions at the facility. It also establishes new fugitive benzene emission rates. Details of the fugitive hydrocarbon component count methodology and the ROC emissions calculation methods are detailed in APCD P&P 072; the resultant ROC emissions are tabulated in Table 2 of this permit. Fugitive ROC emissions from the Pipeline Facility, based on the correlation equation methodology, are calculated as shown in Table 5.1-0.
- 2.6 Special Calculations: The area-specific annual limits for fugitive benzene emissions were determined through health risk assessment modeling. In their December 19, 2006 RRAP, Venoco proposed to limit fugitive benzene emissions in each area. The fugitive benzene emission limits listed in Condition 2 of this permit and Condition 2 of ATC 12230 will reduce the cancer risk from Venoco Carpinteria below the APCD’s significance threshold. Annual limits were chosen as cancer risk is based on annual releases of toxic emissions over a lifetime exposure (assumed to be 70 years in the model). For that reason, daily and quarterly emission limits are not necessary.
- The health risk assessment modeling was based on reporting year 1999, the most recent inventory approved by the APCD for Venoco Carpinteria. If throughputs increase or process changes occur that result in an increased cancer risk, additional risk reduction measures may be required. See Section 7.0 (Air Toxics) below for additional information regarding the health risk assessment.
- 2.7 BACT Analyses: Best Available Control Technology was not required. However, if Venoco exceeds an annual area-specific benzene limit, that entire area is required to be replaced with BACT components, according to Condition 3 of this permit.
- 2.8 Enforceable Operational Limits: The permit has provisions that ensure the operational constraints listed herein are not exceeded, including compliance with the emissions limits of this permit and the requirements of Rule 331, the I&M Plan and the RRAP.

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The APCD reviewed Venoco's fugitive I&M monitoring records for the period from 2000 through 2005 to ensure that Venoco's proposed fugitive ROC limit was based upon realistic numbers of "≥10K" components for the various component types. Based on the APCD's review, Venoco revised the ATC application on March 9, 2007 to increase their ROC limits to allow for additional "≥10K" components.

There are no short term benzene limits on which to base compliance during the SCDP. Only if an annual benzene limit is exceeded can it be determined that compliance was not met during the SCDP. As the annual benzene limits are health risk based limits, they will not be changed regardless of Venoco's ability to comply with them during the SCDP. In the event that Venoco can not comply with the annual area-specific benzene limits during the SCDP, Venoco is required to install BACT components throughout any area that exceeded its limit as specified in Condition C.2.b of this permit.

- 2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. Quarterly (or monthly, if Venoco elects) monitoring of all accessible components is required. The components will be monitored with an organic vapor analyzer, consistent with the USEPA Method 21.
- 2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the APCD. Venoco is required to record all component screening values. Semi-annual reporting is required. In addition, Venoco is required to report exceedances of the ROC and benzene limits within 24 hours of discovery.

### **3.0 REEVALUATION REVIEW (not applicable)**

### **4.0 REGULATORY REVIEW**

- 4.1 Partial List of Applicable Rules: This project is anticipated to operate in compliance with the following rules:

Rule 101. Compliance of Existing Facilities  
Rule 205. Standards for Granting Permits  
Rule 303. Nuisance  
Rule 325. Crude Oil Production and Separation  
Rule 331. Fugitive Emissions Inspection and Maintenance  
Rule 346. Loading of Organic Liquid Cargo Vessels  
Rule 801. New Source Review  
Rule 802. Nonattainment Review  
Rule 803. Prevention of Significant Deterioration

- 4.2 Rules Requiring Review:

- 4.2.1 Rule 331 – Fugitive Emissions Inspection and Maintenance

Application of the correlation equations methodology at the Pipeline Facility will require specific component monitoring that was not included in the I&M program approved as part of Part 70/PTO

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7995-R7. The I&M Plan has been modified by Venoco to include the revised component count and monitoring requirements. The I&M Plan dated May 25, 2007 was initially approved by the APCD on May 29, 2007. The I&M Plan was updated on February 7, 2008 to include a corrected component count, and approved by the APCD on February 13, 2008. Venoco's I&M Plan will satisfy all requirements of Rule 331.

- 4.3 NEI Calculations: The net emission increase calculation is used to determine whether certain requirements must be applied to a project (e.g., offsets, AQIA, PSD BACT). The NEI values for the stationary source are documented in Table 5-5 of Part 70/PTO 7995-R7. This permit action does not affect the facility NEI. The Permitted Potential to Emit (PPTE), Facility Potential to Emit (FPTE), and Federal PT-70 Potential to Emit values are shown in Attachment "A" (IDS Database Emission Tables).

## 5.0 AQIA

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

## 6.0 OFFSETS/ERCs

- 6.1 General: The emission offset thresholds of Regulation VIII are not exceeded by this permitting action.
- 6.2 Offsets: Offsets are not required for this permitting action.
- 6.3 ERCs: This stationary source generates emission reduction credits ("ERCs"). Section 1.5 of Pt70/PTO 7996-R7 contains a discussion of the ERCs generated by this source. The emission reduction credits remain unaffected by this permit action. The Pipeline Facility does not provide ERCs to any source, nor has this facility generated ERCs in the form of an ERC Certificate pursuant to Rule 806.

## 7.0 AIR TOXICS

Venoco Carpinteria is subject to the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("AB 2588"). In October 2006, the APCD conducted a final HRA for the Venoco Carpinteria Gas Plant and Pipeline Facility, using the Hotspots Analysis and Reporting Program ("HARP") software, Version 1.1 (Build 23.02.10).

Cancer risk and chronic and acute non-cancer hazard index risk values were calculated and compared to significance thresholds for cancer and chronic and acute non-cancer risk adopted by the APCD's Board of Directors. The calculated risk values and applicable thresholds are as follows:

	<u>Venoco Carpinteria Max Risks</u>	<u>Significance Threshold</u>
Cancer risk:	30.1 /million	>10/million
Chronic non-cancer risk:	0.75	> 1
Acute non-cancer risk:	2.23	> 1

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Based on the final HRA with the 1999 toxic emissions inventory, Venoco Carpinteria exceeds the APCD's significance thresholds for cancer and acute non-cancer risk. The cancer risk is primarily due to benzene emissions from leaking fugitive components. The acute non-cancer risk driver is acrolein from the internal combustion engines. The HRA Report documents the results and the inputs to the model and is found in the AB 2588 Project File.

In addition to fugitive ROC emissions, this permit also addresses fugitive benzene emissions at the Pipeline Facility. In satisfaction of the requirements of AB 2588, Venoco has prepared, and the APCD has reviewed and approved an *Air Toxics Emissions Inventory Plan* and an *Air Toxics Emissions Inventory Report*, for inventory year 1999. For the purpose of modeling, the Gas Plant and the Pipeline Facility were divided into several areas and, in accordance with APCD-approved source testing, gas samples drawn in various locations were analyzed for toxic air contaminant ("TAC") compounds. Using results from the analyses and assigning sample point TAC weight fractions to components and assigning components to areas, the APCD modeled the health impact of fugitive emissions. This modeling showed that benzene was the primary driver for cancer health risk impacts. Venoco then proposed to use the benzene concentrations from the gas sample analyses, linked to the new correlation equation methodology, as the means for quantifying benzene emissions for each area of the Gas Plant and the Pipeline Facility, and for tracking those emissions to ensure that they remain below the APCD's significance threshold. The area-specific benzene emission limits in Table 3 (see Condition 2) of this permit were determined by Venoco through modeling. The APCD independently modeled and confirmed that these emission limits would reduce the cancer risk below 10 in a million (based on the 1999 inventory).

Venoco formally requested the correlation equation methodology and benzene limits to reduce the cancer risk in their December 19, 2006 RRAP and in their permit applications submittals on January 25, 2007 for ATC 12230 and ATC 12229. The APCD commented on the RRAP on January 12, 2007. Venoco responded to the APCD comments on February 13, 2007. Based on Venoco's response, the APCD conditionally approved the RRAP on April 4, 2007. The conditional approval letter requires that if there is an exceedance of the annual benzene limits for an area, Venoco must replace the entire area with BACT components. This requirement is included in this permit as Condition 3.

In addition to the benzene reduction measure, the RRAP included four other risk reduction measures. These measures will be enforced under other permits. The other measures of the RRAP include the following:

- Retrofit Ingersoll Rand Engine #3 with non-selective catalytic reduction controls.
- Increase the stack height of Ingersoll Rand Engine #1 to 29 feet from 15.7 feet.
- The Cooper engine is currently out of service (see PT 70/PTO 7996-R7). The engine will not be brought back into service until it has been source tested and the HRA is updated with source test results to ensure the operation of the engine will not exceed APCD's significant risk thresholds.
- Wastewater Tank T-380 is currently out of service (see PT 70/PTO 7995-R7). The tank will not be brought back into service until an updated HRA is performed ensure the operation of the tank will not exceed APCD's significant risk thresholds.

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**8.0 CEQA / LEAD AGENCY**

The APCD is the lead agency for this project. This PTO permit action is exempt from the California Environmental Quality Act ("CEQA") per Appendix A, Section 1 (APCD Projects Exempt from CEQA).

**9.0 SCHOOL NOTIFICATION**

A school notice pursuant to the requirements of H&SC §42301.6 was not required.

**10.0 PUBLIC and AGENCY NOTIFICATION PROCESS/ COMMENTS ON DRAFT PERMIT**

10.1 This project is not subject to public notice.

10.2 Venoco requested 60 days to submit any *Sampling Plan* requested by the APCD per condition C.3, instead of the 30 days proposed in the draft PTO. Condition C.3 was revised to allow 45 days to submit a *Sampling Plan*.

**11.0 FEE DETERMINATION**

Fees for this permit and all follow-up work associated with this permit are assessed on fee schedule basis.

**12.0 RECOMMENDATION**

It is recommended that this permit be granted with the conditions as specified in the permit.

\_\_\_\_\_  
Brian Shafritz  
AQ Engineer

\_\_\_\_\_  
2/15/08  
Date

\_\_\_\_\_  
Brian Shafritz  
Engineering Supervisor

\_\_\_\_\_  
Date

ATTACHMENT

"A" IDS Database Emission Tables



## ATTACHMENT “A”

### IDS Database Emission Tables

## IDS Database Emission Tables

**Table 1**  
**Permitted Potential to Emit (PPTE)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b>ATC 12229</b>						
lbs/day	0.00	39.82	0.00	0.00	0.00	0.00
tons/year	0.00	7.27	0.00	0.00	0.00	0.00

**Table 2**  
**Facility Potential to Emit (FPTE)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b>ATC 12229 and Part 70/APCD PTO 7995 – R7</b>						
lbs/day	0.00	46.47	0.00	0.00	0.00	0.00
tons/year	0.00	8.42	0.00	0.00	0.00	0.00

**Table 3**  
**Federal PT-70 Potential to Emit (PT 70 FPTE)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b>Part 70/APCD PTO 7995 – R7</b>						
lbs/day	0.00	6.36	0.00	0.00	0.00	0.00
tons/year	0.00	1.10	0.00	0.00	0.00	0.00